



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,761	01/30/2002	Tzer-Peng Chen	BHT-3167-40	4120

7590 03/04/2004

BRUCE H. TROXELL
SUITE 1404
5205 LEESBURG PIKE
FALLS CHURCH, VA 22041

EXAMINER

MULPURI, SAVITRI

ART UNIT	PAPER NUMBER
----------	--------------

2812

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/058,761	Applicant(s) CHEN, TZER-PERNG	
	Examiner Savitri Mulpuri	Art Unit 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13,15-18,20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13,15,20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit:

DETAILED ACTION

This action is in response to the applicant's arguments filed on 9/2/22003.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-22, 24, 26- 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Linthicum et al (US 6,4-03,451).

Linthicum et al discloses a method of growing GaN layer by the following process steps: Providing a substrate; growing AlN semiconductor layer as buffer layer "102"; growing pyramid like structure of GaN as seed crystal structure "110 a" with trapezoidal-shaped cross section at a temperature 1000 C or less and then continue growing continuous GaN layer "120" through coalescence at a temperature at about 1100 C or more. Linthicum also discloses increasing the lateral growth by increasing ammonia flux to increase the lateral growth to vertical growth to form GaN continuous layer, when in lateral growth to vertical growth rate ratio of GaN layer "120" is more compared to lateral growth to vertical growth rate ratio of pyramid structure "110 a"(see figs 2-6 and related description). Linthicum et al teaches growing GaN layer uninterrupted without using masks and growing GaN by changing the growth conditions other than temperature

Mandatory Security/Safety Presentations for Alexandria Headquarters

DATE: February 19, 2004

TO: USPTO Employees Located at the Alexandria Campus

FROM: Office of Administrative Services

SUBJECT: Mandatory Security/Safety Presentations

The Office of Security, in conjunction with the Alexandria Fire Department, will be offering security

and safety presentations for the all occupants of the USPTO Headquarters in Alexandria.

Attendance at one of these sessions is mandatory.

Topics to be covered are as follows:

- Building evacuation

- Bomb threats

- Sheltering-in-place

- New physical security features and procedures

PRESENTATION SPECIFICS

WHEN: Tuesday, February 24

7:30 a.m., 9:00 a.m., 10:30 a.m., 12:30 p.m., 2:00 p.m., 3:00 p.m.

Thursday, February 26

7:30 a.m., 9:00 a.m., 10:30 a.m., 12:30 p.m., 2:00 p.m., 3:00 p.m.

Tuesday, March 2

7:30 a.m., 9:00 a.m., 10:30 a.m., 2:00 p.m., 3:00 p.m.

WHERE: Jefferson Building, Lobby Level Conference Room (1D70/80)

To sign up for a session, please follow the procedure below:

1. Click on the link below to access the Automated Training Online Manager (ATOM) homepage.

<http://ws03932/cfdocs/siraedapp/siraatom/index.htm>

2. Click on My Account.

3. Enter your Employee ID and Password, and then click Login.

Note: if you are a first time user or having difficulty accessing the system, please call 306-5791 for registration assistance.

4. Click Course Descriptions & Schedule. The Course Descriptions & Schedule Screen is

displayed.

Note: If the Java Plug-in Security Warning pop-up box is displayed, click Yes.

5. Under the heading View Classes by Offering Time, click on the folder for the month in

which you want to take the session: Feb 2004 or Mar 2004.

6. Click on the + (plus sign) next to the date of the session you want to take. The list of available session for that day is displayed.

7. Select the specific session you want to attend by clicking on that session. A message box

asking if you have approval from your SPE to take this session is displayed. (This is mandatory training so click yes).

8. Click OK.

9. Click on the radio button to indicate yes next to the question Is this training SPE-assigned?

10. Click Yes beneath the question Would you like to REGISTER for the above class? The

Registration Confirmation will appear.

11. Print the Registration Confirmation if you wish. An automated confirmation message will be

sent to you 24 hours prior to the session.

12. Click Close, then click SIGN OFF to exit from ATOM.

Questions pertaining to these presentations may be directed to the Office of Security at 703-306-9000.

Fee Legislation
Update

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/17/04 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 20-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Yang et al (US 6,649,437).

Yang discloses a light emitting device: plurality of light emitting layers are provided for light emitting structure; a transparent conductive oxide e.g., indium in oxide layer (ITO) "30", formed on plurality of light emitting structure, wherein transparent

Art Unit: 2812

conductive oxide metal grid or dot pattern "40" formed therein and abutting light emitting structure; metal reflective layer "28" formed on conductive oxide, wherein metal reflection layer is made of Au,Ag,Al; copper substrate "26" is formed on metal reflection layer (see fig.1 and related description).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13, 15, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over kneissl et al (US 6,448,102) in combination with Chen et al (6,555,405) and Carter-Coman et al (2001/0004534).

Kneissl et al disclose light emitting device: ohmic contact grid "1420" formed on light emitting device layers "1110"; bonding layer of Pb-Sn layer "1421" formed on ohmic contact grid "1117"; Ti metal layer formed on bonding layer; copper substrate "1138" formed on metal layer "1422"(14 d and related description)

Kneissl do not teach (1) conductive transparent oxide layer having one of ohmic contact grid or dot pattern and abutting light emitting structure. (2) Forming reflection layer and diffusion barrier layer between reflection layer and bonding layer.

Chen et al teaches forming transparent conductive oxide between semiconductor layer "66" and ohmic electrode (see col. 5, lines 55-65). It would have

been obvious to one of ordinary skill in the art to add transparent conductive oxide between semiconductor layer "1110" and ohmic contact grid "1117" because Chen et al teaches providing transparent conductive oxide would improve light emitting efficiency

Carter-Coman et al teaches ohmic contact grid "32" formed on light emitting structure; reflection layer formed on the ohmic contact grid of the light emitting device; diffusion layer formed between reflection layer and bonding (solder) layer, wherein reflection layer has ability to reflect the light emitted by light emitting device. It would have been obvious to one of ordinary skill in the art to skill in the art to form reflection layer over the ohmic contact grid and diffusion barrier layer between reflection layer and bonding layer because Carter-Coman et al discloses diffusion layer formed between reflection layer acts as barrier between reflector layer and bonding layer and prevent the degradation of reflector layer and thereby ability to increase the reflection of light emitted by light emitting device.

Conclusion

Cited prior art teaches light emitting device in several ways.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Savitri Mulpuri whose telephone number is 571-272-1677. The examiner can normally be reached on Mon–Fri from 8 to 4.30.p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached on 571-272-1679. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2812

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Savitri Mulpuri
Primary Examiner
Art Unit 2812